

# MISSOURI MONTHLY VITAL STATISTICS

## *Provisional Statistics* From The

MISSOURI DEPARTMENT OF HEALTH & SENIOR SERVICES  
CENTER FOR HEALTH INFORMATION MANAGEMENT & EVALUATION  
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April 2002 Vol. 36 No. 02

### **Focus...Baby Your Baby**

Missouri's "Baby Your Baby" educational campaign is designed to inform citizens about prenatal and infant care issues. The goals are (1) to change beliefs and practices that are detrimental during pregnancy and infancy and (2) to reinforce and encourage healthy attitudes and behaviors among pregnant women and mothers of infants. This multimedia campaign involves radio and television advertisements and printed material in the form of Baby Your Baby Keepsake books. The campaign also distributes Baby Your Baby Child Development/Safety Newsletters. Printed material is available in both English and Spanish.

To measure any effects this campaign has on women's beliefs and behavior during pregnancy and the infancy of their children, the Missouri Department of Health and Senior Services conducted a survey before the media campaign began and will conduct a second survey after the campaign has ended. These pre- and post- campaign surveys are expected to measure changes in knowledge, beliefs and reported behavior about the topics covered during the campaign. Among the issues addressed in the campaign are the risks of tobacco, alcohol and drug use, and the benefits of folic acid intake, all before and during pregnancy. After the baby is born, the topics addressed are breast-feeding and infant sleeping position.

The sample consisted of Missouri resident women having live births from September through November 1999. The sample was stratified by two race groups and four geographic regions in Missouri. Adoptions and infant deaths were excluded from the survey sample. The two race groups were African-Americans and all

other races. African-American women were oversampled to produce a large enough strata sample to do an analysis by race. The ratio of African-American women sampled to all other women sampled was 50:50. The four regions were Kansas City, St. Louis City, St. Louis County and the other counties of Missouri. For each race group within each region, 450 births were selected for the sample with a total, statewide sample of 3,600 births.

Surveys were sent to women in spring 2000, when the mothers were four to six months post-partum. A postcard reminder and follow-up survey were sent to those women not responding to the initial survey. A telephone reminder call was placed if the mother did not respond to either of the two surveys mailed to her. A magnetic photo frame was offered as incentive to return a completed survey and consent form. This effort resulted in a response rate to the survey of 34.4% for Black women and 63.7% for non-Black women, as shown in Table 1.

Sharply higher response rates for non-Blacks than for Blacks persisted by region, marital status, education and age. For both race groups, married women responded to the survey more often than single women (41.4% versus 32.2% for Blacks and 68.9% versus 50.8% for non-Blacks), with the difference between the race groups being greater for married than for single women. For both Black and non-Black women, older women responded more often than younger women. However, the rate of response for Black women increased with age much more modestly than for non-Black women. The result is a disparity between Black and non-Black women that increases with each older

(continued on next page)

Table 1. Response Rate by Selected Characteristics: Missouri Baby Your Baby Pre-Campaign Survey

	Blacks			Non-Blacks		
	Sample	N	Rate	Sample	N	Rate
<b><u>Marital Status</u></b>						
Not married	1,377	444	32.2	518	263	50.8
Married	423	175	41.4	1,281	883	68.9
<b><u>Age</u></b>						
<20	441	144	32.7	168	79	47.0
20-24	595	201	33.8	415	235	56.6
25-34	651	230	35.3	972	659	67.8
35 and older	113	44	38.9	244	174	71.3
<b><u>Mother's Education</u></b>						
Less than 12 years	535	159	29.7	301	113	37.5
12 years	655	225	34.4	455	270	59.3
13 or more years	585	231	39.5	1,023	756	73.9
Unknown	25	4	16.0	21	8	38.1
<b><u>Region</u></b>						
St. Louis City	450	148	32.9	450	269	59.8
St. Louis County	450	177	39.3	450	307	68.2
Kansas City	450	133	29.6	450	260	57.8
Rest of Sample	450	161	35.8	450	311	69.1
<b><u>Medicaid Coverage</u></b>						
Yes	1,169	412	35.2	538	285	53.0
No	579	207	35.8	1,187	862	72.6
<b>Total Responses</b>	<b>1,800</b>	<b>619</b>	<b>34.4</b>	<b>1,800</b>	<b>1,147</b>	<b>63.7</b>

age group. The Black – non-Black differences in responses are repeated for education with a modest increase in response for Black women as education increases compared to large increases for non-Black respondents as education increased. Again, the disparity between Black and non-Black respondents increased as each group increased the years of school reported.

Among the four regions, Kansas City had the lowest response rate for Blacks, 29.6% and non-Blacks, 57.8%. St. Louis County had the highest Black response rate at 39.3%. The highest non-Black response rate was from counties outside the Kansas City and St. Louis areas at 69.1%.

The information reported in this article represents Baby Your Baby (BYB) survey respondents, not the survey sample or the state of Missouri. In another

report, we compared the birth certificate data of BYB responders and non-responders and found that the non-responders reported more negative pregnancy health behaviors than responders.<sup>1</sup> Given this finding, the responders cannot be viewed as representative of the non-responders.

In this article we will examine five maternal behaviors from the Baby-Your Baby (BYB) survey by Medicaid coverage for both Black and non-Black respondents. The behaviors are identified as follows: (1) use of folic acid supplement, (2) smoking, (3) sleep position, (4) alcohol consumption, and (5) breast-feeding.

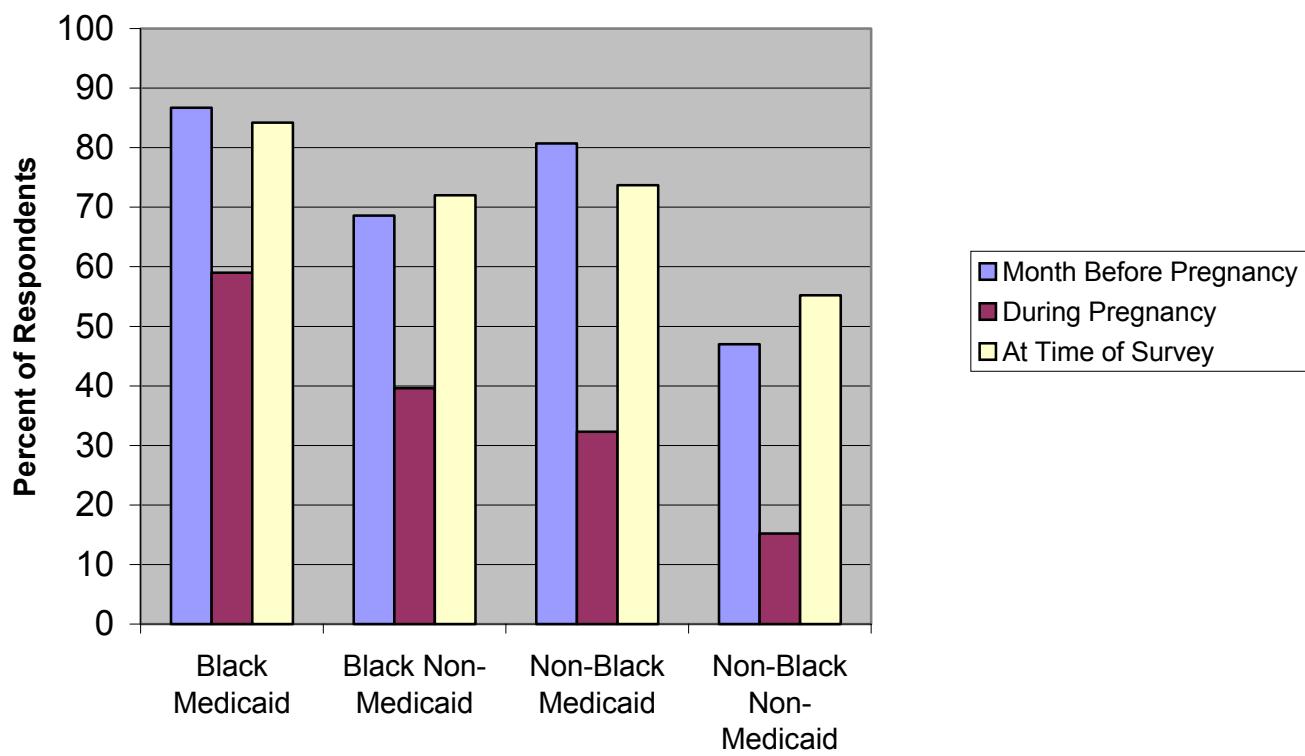
Studies have shown that risk for a neural tube defect is substantially reduced by taking appropriate levels of folic acid supplement. Because the fetal neural tube

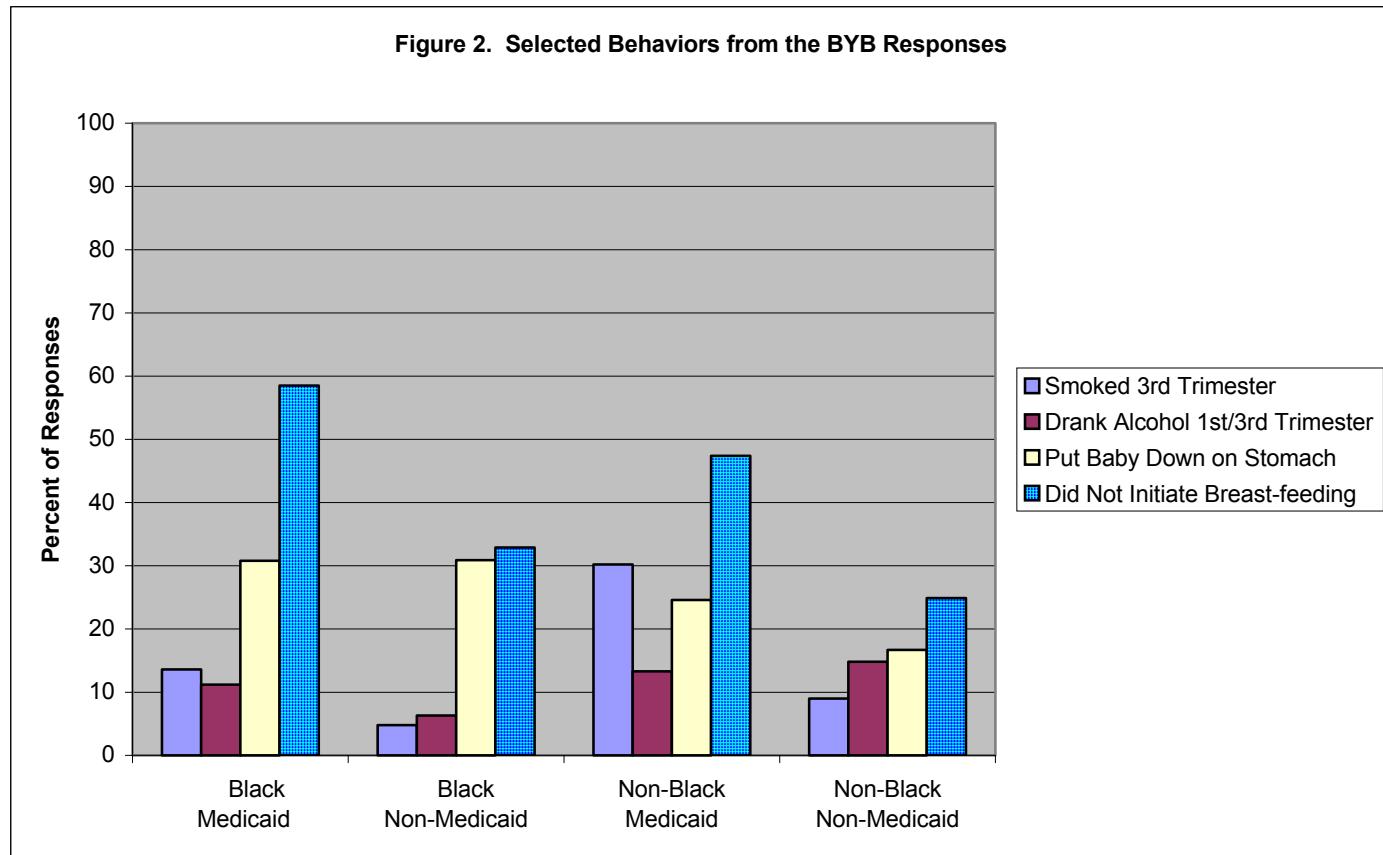
develops early in pregnancy, before most women are aware they are pregnant, the Centers for Disease Control recommends that all women capable of giving birth take a folic acid supplement.<sup>2</sup> The BYB survey asked if women had taken folic acid in a pill (by itself or in a multivitamin) every day, or almost every day, at three different times: during the month before they were pregnant, while they were pregnant, and at the time of the survey. Figure 1 shows negative responses for each of those time periods grouped by race and Medicaid coverage. In the month before pregnancy, 86.7 percent of Black Medicaid BYB respondents and 68.6 percent of Black non-Medicaid respondents reported not taking folic acid. Among non-Blacks, 80.7 percent of the Medicaid, and 47.0 percent of non-Medicaid respondents did not take folic acid. While all groups were more likely to take folic acid during their pregnancy than prior to becoming pregnant, Black Medicaid respondents reported the highest rate of non-use of folic acid during pregnancy (59.0 percent). Nearly 40 percent of Black non-Medicaid respondents, 32.3 percent of non-Black Medicaid respondents and 15.2 percent of non-Black non-Medicaid respondents reported that they did not take folic acid during their

pregnancy. At the time of the survey, when respondents were four to six months post-partum, the percent of each group not taking folic acid supplement returned to their pre-pregnancy levels: 84.2 percent for Black Medicaid respondents, 72.0 percent for Black non-Medicaid respondents, 73.7 percent for non-Black Medicaid respondents and 55.2 percent for non-Black non-Medicaid respondents.

Figure 2 presents four behaviors reported by BYB respondents by the two race groups with and without Medicaid coverage. During pregnancy, maternal smoking is associated with reduced birth weight (and fetal and infant deaths). After a baby is born, maternal smoking is associated with SIDS deaths,<sup>3</sup> and children's respiratory problems. For Black Medicaid respondents, 13.6 percent reported smoking in the third trimester. This was more than twice the percentage reported by Black non-Medicaid respondents. Non-Black Medicaid respondents had the highest rate of smoking in the third trimester of the four groups. Their rate of 30.2 percent was more than three times that of non-Black non-Medicaid respondents, who reported smoking at a rate of 9.0 percent.

**Figure 1. BYB Respondents Who Checked They Did Not Take Folic Acid**





No amount of alcohol consumed during pregnancy is considered safe. Drinking alcohol during pregnancy may cause birth defects, most notably brain damage. Among the BYB survey questions on drinking alcohol, one set addressed drinking in the first three months of pregnancy, and another set asked about the last three months of pregnancy. For each of these two periods, survey participants were asked how many alcoholic drinks they usually had in a week and how many times they drank five or more alcoholic drinks at one time. If the respondent indicated a number of alcoholic drinks consumed or checked "I don't know or I can't remember," she was counted as having drunk alcohol during the period. Based on these questions, 11.2 percent of Black Medicaid respondents and 6.3 percent of Black non-Medicaid respondents were counted as having drunk alcohol in the first or third trimester. The rates reported by non-Black women with and without Medicaid coverage were similar to each other: 13.3 percent for Medicaid respondents and 14.8 percent for non-Medicaid respondents. Notably, for both smoking in the third trimester and drinking alcohol in the first or third trimester, Black women with no Medicaid coverage had the lowest reported rates.

Between 1990 and 2000, SIDS deaths declined by nearly half in Missouri.<sup>4</sup> However, SIDS continues to be the leading cause of post-neonatal deaths, and disparities continue to exist between Black and non-Black SIDS rates. SIDS deaths for black mothers decreased the least between the two periods, 1990-1995 and 1996-2000. Since the impressive reduction in SIDS deaths nationally and in Missouri is apparently due to the practice of placing babies on their backs to sleep, infant sleeping position is of interest to the BYB campaign. To obtain more information on this behavior, the BYB survey asked, "How do you put your baby down to sleep most of the time?" Approximately 31 percent of Black women, regardless of Medicaid coverage, checked that they put their baby down to sleep on his/her stomach or any way the baby wanted to sleep. The corresponding percents were 24.6 for non-Black Medicaid respondents and 16.7 for non-Black non-Medicaid respondents.

Breast-feeding has long been established as the best source of nutrition for an infant. The BYB sample was asked if they breast-fed their infant and, if so, for how long. Respondents who reported that they breast-fed less

than one week were included as having initiated breast-feeding. Even with this liberal definition of initiating breast-feeding, 58.5 percent of Black Medicaid respondents reported not initiating breast-feeding. This rate compares to 32.9 percent for Black non-Medicaid respondents. Correspondingly, 47.4 percent of non-Black Medicaid respondents and 24.9 percent of non-Black non-Medicaid respondents reported not breast-feeding.

The BYB survey asked women to check if their doctor, nurse or other health care worker talked about fourteen health topics during their pregnancy check-ups. This report focuses on eight of these topics. Three of the topics are mandated by Missouri Statutes: smoking, drinking alcohol and illegal drugs. The other five are: (1) breast-feeding, (2) HIV prevention behaviors, (3) being tested for HIV, (4) being hurt or abused while pregnant and (5) taking folic acid while pregnant.

Since 1992, RSMO 191.725 has required every physician who provides obstetrical care in Missouri to counsel patients as to the effects of smoking cigarettes and the use of alcohol and controlled substances. Furthermore, the statute requires all patients to sign a written statement certifying that such counseling took place. For both Black and non-Black respondents, those who had Medicaid coverage reported higher levels of recall for all three topics required by law than respondents who did not have Medicaid coverage. Notably, non-Black non-Medicaid women reported the lowest level of recall of the four groups of women for all three topics. Only 72.7 percent of non-Black non-Medicaid respondents recalled counseling on smoking, 76.7% counseling on drinking alcohol, and 66.5% counseling on controlled substances.

Five other topics are examined in Table 2: breastfeeding, keeping from getting HIV, being tested for HIV, being hurt or abused while pregnant and taking folic acid by pill while pregnant. The response pattern was similar to the results for the legally mandated topics. Black Medicaid respondents reported the highest rate of recall on four of the five topics: counseling on breast-feeding, keeping from getting HIV, being tested for HIV and being hurt or abused while pregnant. Non-Black non-Medicaid respondents reported the lowest rates on these same four topics. The topic of folic acid is the exception to this pattern. For this topic, non-Black non-Medicaid respondents reported the highest rate of recall at 71.2 percent. Among the other three groups, only slightly more than half of the respondents reported any recall on the topic of folic acid.

For all four categories of respondents, counseling on breast-feeding was recalled most frequently. Among Black respondents, the two topics least often recalled were being hurt or abused while pregnant and use of folic acid. For non-Black respondents, the two topics with the lowest level of recall were how to keep from getting HIV and being hurt or abused while pregnant.

### **Summary**

The information reported in this article is based on the Baby Your Baby survey results, analyzed by race and Medicaid status. Although incentives were offered for participating in the survey, the response rate was low and especially so for Black women. In addition, separate analysis of birth certificate data revealed that non-responders reported more negative pregnancy health behaviors than responders. Given the low response rate and evidence of differences between responders and non-responders, the results cannot be viewed as representative of the survey sample nor of women in the larger Missouri population.

Based on the survey items examined, key concerns can be identified regarding folic acid, sleeping position, breastfeeding and smoking.

**Folic acid:** Among the four groups studied, the pattern of folic acid usage and recall of counseling on this topic revealed some interesting differences. Approximately four of five non-Black non-Medicaid respondents reported taking folic acid during their pregnancy. This group was also the most likely to recall counseling on this topic (71.2%). The somewhat higher usage compared to counseling suggests that factors other than counseling influenced their usage of folic acid; i.e., some of the women in this group took folic acid during pregnancy even though they did not recall any counseling on this topic.

The results are somewhat different for the Black Medicaid respondents, where 54.4% recalled counseling on folic acid usage yet 59% reported they did not take folic acid during their pregnancy. This result suggests that for some Black Medicaid respondents, neither counseling on folic acid nor other influencing factors were sufficient to produce the desired behavior. In addition, the wide difference between the non-Black non-Medicaid respondents and the other three groups on their recall of counseling on folic acid usage suggests that counseling on this topic may indeed vary by race and Medicaid status.

Table 2. Respondent Recall of Eight Topics Discussed with Doctor, Nurse or Health Care Worker

	Black Medicaid		Black Non-Medicaid		Non-Black Medicaid		Non-Black Non-Medicaid	
<u>Legally Mandated</u>	<u>N</u>	<u>%</u>	<u>N</u>	<u>%</u>	<u>N</u>	<u>%</u>	<u>N</u>	<u>%</u>
Smoking	358	86.9	165	79.7	249	87.4	627	72.7
Drinking Alcohol	352	85.4	171	82.6	237	83.2	661	76.7
Illegal Drugs	342	83.0	160	77.3	232	81.4	573	66.5
<u>Other</u>								
Breastfeeding	384	93.2	183	88.4	250	87.7	688	79.8
Keep from getting HIV	295	71.6	122	58.9	161	56.1	271	31.4
Tested for HIV	338	82.0	164	79.2	221	77.5	531	61.6
Hurt/Abused	244	59.2	87	42.0	145	50.9	203	23.5
Folic Acid	224	54.4	109	52.7	163	57.2	614	71.2
<b>TOTAL</b>	<b>412</b>	--	<b>207</b>	--	<b>285</b>	--	<b>862</b>	--

**Sleeping position:** For Black respondents there was little difference between the Medicaid and non-Medicaid groups in the percent who reported not placing their baby on their back to sleep. Both groups were very near the 32 percent reported in a 1998 national survey on this topic. One in four of the non-Black Medicaid respondents also reported they do not follow this practice, compared to one in six among the non-Black non-Medicaid respondents. These results point to the need to better educate black mothers and low-income women about the sleeping position recommendation for infants.

**Breastfeeding:** For both Black and non-Black respondents, those receiving Medicaid were less likely to initiate breastfeeding, despite fairly high recall of counseling on this topic across all four groups. Interestingly, the non-Black non-Medicaid respondents had the lowest level of recall on counseling but were the most likely of the respondent groups to initiate breastfeeding. Similarly, Black Medicaid respondents had the highest level of counseling recall but were least likely to initiate breastfeeding. The results reveal a disconnect between the intervention (i.e., counseling on breastfeeding) and the desired behavior and suggest that cultural and other factors are more likely to influence whether or not one will breastfeed.

**Smoking:** For both Blacks and non-Blacks, the Medicaid respondents were about three times more likely than their non-Medicaid counterparts to report smoking during their third trimester, despite the fact that both Black and non-Black Medicaid groups reported fairly high recall of counseling about smoking (86.9% and 87.4%, respectively). As with the results on breastfeeding, it appears that counseling alone is insufficient to modify smoking behavior during pregnancy.

#### Footnotes:

1. Baby Your Baby Pre-Campaign Survey, prepared by Sheila Murphy and presented to Terry Weston, May 2002.
2. *Missouri Monthly Vital Statistics*: “Neural Tube Defects and Folic Acid Awareness”, March 2002, Vol 36, No.2.
3. *Missouri Monthly Vital Statistics*: “Missouri SIDS Deaths 1990-2000”, August 2001, Vol. 35, No. 6.
4. Ibid.

## Provisional Vital Statistics for February 2002

**Live births** increased in February as 6,171 Missouri babies were born compared with 5,685 one year earlier. However, cumulative births for January-February and the 12 months ending both show decreases.

**Deaths** increased in February as 5,018 Missourians died compared with 4,798 in February 2001. For the 12 months ending with February, deaths decreased by 2 percent from 54,100 to 53,034.

The **Natural increase** for Missouri in February was 1,153 (6,171 births minus 5,018 deaths). Due to the drop in births,

the natural increase was down nearly 11 percent for the 12 months ending with February.

**Marriages** and **Dissolutions of marriage** both decreased slightly for all three time periods shown below. The marriage to divorce ratio increased slightly from 1.76 to 1.78 to one for the 12 months ending with February.

**Infant deaths** increased slightly in February as 56 Missouri infants died compared with 52 in February 2001. For the 12 months ending with February, the infant death rate increased from 7.3 to 7.8 per 1,000 live births.

### PROVISIONAL VITAL STATISTICS FOR FEBRUARY 2002

Item	February				Jan.—Feb. Cumulative				12 months ending with February					
	Number		Rate*		Number		Rate*		Number		Rate*			
	2001	2002	2001	2002	2001	2002	2001	2002	2001	2002	2000	2001	2002	
<b>Live Births</b> .....	5,685	6,171	13.2	14.2	13,274	11,769	14.6	12.9	77,662	74,024	13.8	13.9	13.1	
<b>Deaths</b> .....	4,798	5,018	11.1	11.5	10,903	9,610	12.0	10.5	54,100	54,034	10.1	9.7	9.4	
<b>Natural increase</b> .....	887	1,153	2.1	2.7	2,371	2,159	2.6	2.4	23,562	20,990	3.7	4.2	3.7	
<b>Marriages</b> .....	2,401	2,310	5.6	5.3	4,896	4,359	5.4	4.8	43,906	43,479	8.1	7.8	7.7	
<b>Dissolutions</b> .....	1,707	1,519	4.0	3.5	3,791	3,385	4.2	3.7	24,925	24,487	4.5	4.5	4.3	
<b>Infant deaths</b> .....	52	56	9.1	9.1	122	93	9.2	7.9	567	575	7.7	7.3	7.8	
<b>Population base</b> .....	...	...	5,630	5,665	...	...	5,630	5,665	...	...	5,555	5,601	5,636	
(in thousands)														

\* Rates for live births, deaths, natural increase, marriages and dissolutions are computed on the number per 1000 estimated population. The infant death rate is based on the number of infant deaths per 1000 live births. Rates are adjusted to account for varying lengths of monthly reporting periods.

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